JOURNAL OF ALLOYS AND COMPOUNDS VOLUMES 210, NUMBERS 1–2, AUGUST 1994

Contents

Letter

Synthese und Kristallstrukturuntersuchung von $CaBeEu_2O_5$, $SrBeGd_2O_5$ und $EuBeSm_2O_5$ L1
Hk. Müller-Buschbaum und M. Wolters (Kiel, Deutschland)

Regular Papers

R_5Ga_3 compounds of selected rare earth metals R: structures and properties 1
J.-T. Zhao and J.D. Corbett (Ames, IA, USA)

On the deuterium quadrupole coupling constant of H-doped Y–Ba–Cu–O systems. 9
S.D. Goren, C. Korn (Beer Sheva, Israel), E. Rössler, H.M. Vieth, K. Lüders (Berlin, Germany), Z. Gavra (Beer Sheva, Israel), J.R. Johnson and J.J. Reilly (Upton, NY, USA)

Structural studies of high-pressure Ba–Rh–O phases 13
T. Siegrist (Murray Hill, NJ, USA), E.M. Larson (Albuquerque, NM, USA) and B.L. Chamberland (Storrs, CT, USA)

Crystal structure of R_3Ge_4 compounds (R = Er, Ho, Tm, Lu) 19
O.Ya. Oleksyn and O.I. Bodak (Lviv, Ukraine)

Magnetic effects in dilute Cr–Ni alloys from velocity of sound measurements 23
H.L. Alberts (Johannesburg, South Africa)

Neutron diffraction study of the structure of the A15-type deuteride $Ti_3SbD_{2.6}$ 27
A.V. Skripov (Stuttgart, Germany), A.A. Podlesnyak and P. Fischer (Villigen, Switzerland)

X-Ray absorption spectroscopy and magnetization study of the $Y_{2-x}Ca_xBaNiO_5$ oxides 31
R. Castañer, C. Prieto, A. de Andrés, J.L. Martínez and R. Sáez-Puche (Madrid, Spain)

Synthesis of fine composite particles for hydrogen storage, starting from $Mg–YNi_2$ mixture 37
S. Orimo, H. Fujii and M. Tabata (Higashi-Hiroshima, Japan)

Synthesis and sintering of $KTiOPO_4$ via mechanochemical mixing route 45
Y. Kanno (Kofu, Japan)

Synthese und Struktur von $SrPdH_{2.7}$ 53
W. Bronger und G. Ridder (Aachen, Deutschland)

Zur Kenntnis eines gemischtvalenten Lanthanoxovanadats: $La_{11}V^{4+}V_3^{5+}O_{26}$ 57
Hk. Müller-Buschbaum und J.-P. Werner (Kiel, Deutschland)

Thermochemistry, lattice energetics and stability of hexahalogenohafnates. 63
L. Gruzdiewa, J. Rak and J. Błażejowski (Gdańsk, Poland)

The luminescence of the Cd(II) ion and of cadmium compounds 71
G. Blasse (Utrecht, Netherlands)

Isothermal sections in the systems $ZnO–AO_2–Nb_2O_5$ (A = Ti, Zr, Sn) at 1473 K 75
A. Baumgarte and R. Blachnik (Osnabrück, Germany)

New actinide ternary intermetallic compounds: synthesis, characterization and physical properties 83
F. Wastin, J. Rebizant (Karlsruhe, Germany), J.P. Sanchez, A. Blaise (Grenoble, France), J. Goffart (Liège, Belgium), J.C. Spirlet, C.T. Walker and J. Fuger (Karlsruhe, Germany)

Magnetic properties of R_2Zn_{17} compounds (R = rare earth) 91
D. Gignoux, D. Schmitt (Grenoble, France), B. Garcia-Landa, M.R. Ibarra and C. Marquina (Saragossa, Spain)

Two-phase microstructure in Pr–(Fe, Co, Ni)–B sintered magnets 99
Y. Ozaki, F. Kogiku and M. Shimotomai (Chiba, Japan)

Luminescence properties of $La_{1-x}Tm_xTa_7O_{19}$ 103
S. Kubota, T. Endo, H. Takizawa and M. Shimada (Miyagi, Japan)

Elsevier Science S.A.

Electrode characteristics of C14-type Zr-based Laves phase alloys 109
S.-R. Kim (Kyunggi-do, South Korea) and J.-Y. Lee (Taejon, South Korea)

Eine neue Phase mit Defekt-Pyrochlor-Struktur: $TiYO_{2,1}$ 115
S. Möhr und Hk. Müller-Buschbaum (Kiel, Deutschland)

Einkristall-Röntgenstrukturanalyse und magnetische Eigenschaften von $Ba_3YRu_2O_9$, $Ba_3GdRu_2O_9$ und $Ba_3YbRu_2O_9$ 119
M. Rath und Hk. Müller-Buschbaum (Kiel, Deutschland)

Synthesis and crystal structure of iron(III) selenate(IV) trihydrate, $Fe_2(SeO_3)_3 \cdot 3H_2O$ 125
G. Giester and F. Pertlik (Vienna, Austria)

Structural study of $Zr(Cr_{1-x}Fe_x)_2D_y$ ($0.4 \leqslant x \leqslant 0.75$; $2 < y < 3$) by means of neutron powder diffraction. 129
O. Canet, M. Latroche (Meudon, France), F. Bourée-Vigneron (Gif sur Yvette, France) and A. Percheron-Guégan (Meudon, France)

Electron microscopy and X-ray diffraction studies of rapidly quenched Zr–Ni and Hf–Ni ribbons with about 90 at.% Ni 135
Á. Cziráki, B. Fogarassy (Budapest, Hungary), G. Van Tendeloo (Antwerp, Belgium), P. Lamparter (Stuttgart, Germany), M. Tegze and I. Bakonyi (Budapest, Hungary)

Relation between the magnetic transition temperature and magnetic moment for manganese nitrides MnN_y ($0 < y < 1$) 143
M. Tabuchi, M. Takahashi and F. Kanamaru (Osaka, Japan)

An $Al_{13}Fe_4$ phase in the Al–Cu–Fe alloy system. 149
C. Freiburg and B. Grushko (Jülich, Germany)

On the crystal structure and magnetic properties of the ternary rare earth compounds $RETSb_2$ with RE≡rare earth and T≡Ni, Pd, Cu and Au. 153
O. Sologub, K. Hiebl, P. Rogl (Vienna, Austria), H. Noël (Rennes, France) and O. Bodak (Lviv, Ukraine)

Luminescence and energy migration in the oxyapatite $Ca_2Gd_8(SiO_4)_6O_2$ doped with several rare earth and mercury-like ions 159
J. Lin and Q. Su (Changchun, China)

Short-range ordering in binary liquid alloys of rare earth metals with copper and silver 165
M.I. Ivanov and V.V. Berezutski (Kiev, Ukraine)

Sulfate-ion-selective electrode with nanocrystalline composite oxides $La_{1-x}Sr_xFe_{1-y}Co_yO_3$ as solid membranes 171
H. Zhang, X. Li, C. Sun, J. Mei, S. Li and M. Zhao (Changchun, China)

Rare earth–platinum group mixed metal oxide systems 177
K.M. Cruickshank and F.P. Glasser (Aberdeen, UK)

Crystal structures of VSn_2, $NbSn_2$ and $CrSn_2$ with Mg_2Cu-type structure and NbSnSb with $CuAl_2$-type structure. . . . 185
T. Wölpl and W. Jeitschko (Münster, Germany)

A study of the boron-rich corner of the Er–Al–B system. 191
Y. Yu and T. Lundström (Uppsala, Sweden)

High-field magnetization process in $Mn_{1.9}Cr_{0.1}Sb$. 197
N.V. Baranov, Yu.A. Khrulev, M.I. Bartashevich (Ekaterinburg, Russian Federation), T. Goto and H. Aruga Katori (Tokyo, Japan)

Etude de la réduction carbothermique du dioxyde de titane par diffraction X à haute température sous pression contrôlée 201
A. Afir, M. Achour (Alger, Algérie) et A. Pialoux (Orsay, France)

Neutron diffraction studies of $CaMn_2Ge_2$ and $BaMn_2Ge_2$ compounds: first examples of antiferromagnetic Mn planes in $ThCr_2Si_2$-type structure compounds. 209
B. Malaman, G. Venturini, R. Welter (Vandoeuvre les Nancy, France) and E. Ressouche (Grenoble, France)

Neutron diffraction studies of $LaMn_2Ge_2$ and $LaMn_2Si_2$ compounds: evidence of dominant antiferromagnetic components within the Mn planes. 213
G. Venturini, R. Welter (Vandoeuvre les Nancy, France), E. Ressouche (Grenoble, France) and B. Malaman (Vandoeuvre les Nancy, France)

On the nature of the electrochemical cycling stability of non-stoichiometric $LaNi_5$-based hydride-forming compounds Part I. Crystallography and electrochemistry 221
P.H.L. Notten, R.E.F. Einerhand and J.L.C. Daams (Eindhoven, Netherlands)

On the nature of the electrochemical cycling stability of non-stoichiometric $LaNi_5$-based hydride-forming compounds Part II. *In situ* X-ray diffractometry 233
P.H.L. Notten, J.L.C. Daams and R.E.F. Einerhand (Eindhoven, Netherlands)

$LiMg_2RuH_7$, a new quaternary metal hydride containing octahedral $[Ru(II)H_6]^{4-}$ complex anions. 243
B. Huang, K. Yvon (Geneva, Switzerland) and P. Fischer (Villigen, Switzerland)

Approche de l'oxydation du kovar dans l'air 247
A. Zanchetta et P. Lefort (Limoges, France)

^{155}Gd Mössbauer effect and magnetic properties of $GdCo_{5-x}Ga_x$ 255
F.M. Mulder, R.C. Thiel (Leiden, Netherlands), D.P. Middleton and K.H.J. Buschow (Eindhoven, Netherlands)

Phase relations of La_2O_3–CaO–CuO ternary system and Ca^{2+} substitution for La^{3+} in La_2CuO_4 261
Q. Zhong, Y. Zhang, X. Chen, G. Rao and J. Liang (Beijing, China)

Mn substitution effect on magnetic and magnetostrictive properties of $HoFe_2$ 267
Y.J. Tang, H.L. Luo and S.M. Pan (Beijing, China)

Magnetic properties of TbMnSi, determined by susceptibility measurements and neutron diffraction study. 273
R. Welter, G. Venturini (Vandoeuvre les Nancy, France), E. Ressouche (Grenoble, France) and B. Malaman (Vandoeuvre les Nancy, France)

Magnetic properties of RCoSi (R = La–Sm, Gd, Tb) compounds from susceptibility measurements and neutron diffraction studies 279
R. Welter, G. Venturini (Vandoeuvre les Nancy, France), E. Ressouche (Grenoble, France) and B. Malaman (Vandoeuvre les Nancy, France)

Muon spin relaxation study of amorphous Hf_2Co 287
L.P. Ferreira (Coimbra, Portugal), A. Baudry and P. Boyer (Grenoble, France)

Preparation of neodymium sulphides by the reaction of $Nd_2(SO_4)_3$ with carbon disulphide 291
M. Skrobian (Kosice, Slovakia), N. Sato, M. Saito and T. Fujino (Sendai, Japan)

Homogenizing behaviour in a hydrogen-absorbing $LaNi_{4.55}Al_{0.45}$ alloy through annealing and rapid quenching. 299
Y. Nakamura, H. Nakamura, S. Fujitani and I. Yonezu (Osaka, Japan)

Magnetic properties of $RCo_{4-x}Fe_xGa$ (R = rare earth, $x = 0$, 1) compounds 305
Ch.D. Routsi (Xanthi, Greece), S. Hatjivassiliou (Thessaloniki, Greece), J.K. Yakinthos (Xanthi, Greece) and J. Tsoukalas (Thessaloniki, Greece)

High-temperature synthesis and investigation of hexagonal boron carbonitride. 311
Yu.G. Andreev and T. Lundström (Uppsala, Sweden)

Preparation, characterization and crystal structure of 4,4′-bipyridinium nitrate trinitratodioxo-uranium(VI) and 4,4′-dipyridinium diaqua hexanitrato-thorate(IV). 319
N.N. Rammo, K.R. Hamid and T.K. Ibrahim (Baghdad, Iraq)

Coercive field and domain wall properties in $(Dy_xY_{1-x})Fe_2$ and $(Er_xY_{1-x})Fe_2$ intermetallic compounds 325
K.M.B. Alves, L.C. Sampaio, A.P. Guimarães and S.F. da Cunha (Rio de Janeiro, RJ, Brazil)

Synthese und Kristallstruktur von $KCr_{0.8}Al_{0.2}Mo_2O_8$. 331
O. Sedello und Hk. Müller-Buschbaum (Kiel, Deutschland)

^{155}Gd Mössbauer effect and magnetic properties of $GdNi_2Sb_2$, $GdCu_2Sb_2$ and $GdAl_2Ga_2$. 335
F.M. Mulder, R.C. Thiel (Leiden, Netherlands) and K.H.J. Buschow (Eindhoven, Netherlands)

Magnetic properties of some cerium-based alloys 339
S.K. Dhar, R. Balasubramanium, S.M. Pattalwar and R. Vijayaraghavan (Bombay, India)

Author Index 343

Subject Index 345

The publisher encourages the submission of articles in electronic form thus saving time and avoiding rekeying errors. A leaflet describing our requirements is available from the publisher upon request.